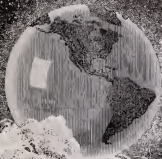


The American **CINEMATOGRAPHER**

VOL. 1, NO. 10

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National Motion Picture Producers Association

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The American Cinematographer

The Voice of the Motion Picture Cameramen of America—the men who make the pictures

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CONTENTS

FOR

JANUARY

	Page
Believes Color Will Not Aid Dramatic Cinematography—By Philip E. Rosen, A. S. C.	4
New Sensitometer for Exposure Determination in Positive Printing—By L. A. Jones and J. L. Crabtree	5
More About Hawaii—By James Van Trees, A. S. C.	7
As New Year Came	9
Central European Cinematography—By Charles Stumar, A. S. C. . . .	13
A Pertinent Question and an Answer Thereto	14
In Cameraformia	18
Releases	26

An educational and instructive publication expounding progress and art in motion picture photography while fostering the industry.

We cordially invite news articles along instructive and constructive lines of motion picture photography from our members and others active in the motion picture industry. All articles must be signed by name and address of writer.

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Believes Color Will Not Aid Dramatic Cinematography

Color would sidetrack attention from story, which is all-important, is opinion

By Philip E. Rosen, A. S. C.

Noted director and cinematographer, after unbiased reasoning, states his points against color

Much time and money is being expended in research which seeks to perfect color photography in motion pictures. Yet, if such efforts are eventually successful, will color actually prove an asset to dramatic motion pictures? In the opinion of the writer, it will not.

At present motion pictures may be said to be the most universally popular form of entertainment that exists. Each day, of course, millions of people view motion picture productions in various parts of the world, and those millions have educated themselves, as it were, to supply, in their imaginations, the colors which are lacking in the "black and white" motion pictures. To them, if you will pause to think, the picture is complete without the natural colors. When they see a tree or a lawn, they know that it is usually green, and so on.

Refers to the Ultimate

When we speak of "color" here we do not mean the present stage of development in colors in cinematography; we refer to the apex of color work, that toward which all experiments are aimed—that is, for colors on the screen to be exact reproductions of the objects photographed.

Everything Subordinate to Story

The test of the success or failure of color in dramatic photography may be summed up in one question—will it aid in the telling of the story? Those things which contribute to the telling of the story in the motion picture are assets, those which do not are liabilities. Anything which distracts the eye and the mind from the story does not belong in the motion picture.

If the entire matter will be thought out carefully, it must be realized that colors in cinematography must draw the attention from the story. For example, take any interior scene—consider how long it takes the eye to travel from one color point to another in a given scene. Make the experiment yourself, close your eyes and open them suddenly on the screen and note how the attention is monopolized by the colors. You of course would necessarily have to make the experiment on a scene in which a majority of the objects therein are stationary.

Many Stations in Color Route

What happens then in the motion picture, which, by its very name, you must remember, does not stand still? A scene is flashed on the screen—a scene which exactly presents each color as in the original. What is the course of the eye, the eye which reports what it sees to the brain? It travels from color to color, according to their individual prominence. Meanwhile, the picture is moving and the story is being told continuously. By the time the eye has consumed valuable moments in absorbing the various colors, the scene has moved on to completion which is before the eye has had time to entirely take in those details which go to make up the story which the picture was produced to relate.

Believes Colors Distracting

Suppose we had a close-up, the object of which was to portray deep emotion. Now suppose the close-up—which includes the characters therein—were in natural color. Here, again, the eye would be distracted by the colors. The time in which the eye should be fully concentrated on those details which are calculated to depict the emotion would be wholly lost in absorbing the colors. The result is evident—the emotion would be lost on the audience. These points are delicate and difficult to "pin down," just as difficult as it is to render which objects in a scene attract

our attention first, but they are points which are monumental in their importance.

The more brilliant the color the quicker it will win the attention of the child. Inherently, we are all susceptible to colors. As long as we are, colors in motion pictures will have first demand on our attention. How does this affect the story which, it may be repeated, the picture was produced to relate? The story becomes subordinate instead of predominant. The matter may be put more plainly—how many people would go to see a production which had no story to tell? Of course, in instances where the chief object may be to present natural colors, such as in scenery or the like colors find an effective place.

Must Re-educate Public

But to introduce colors into dramatic photography would mean that the public would have to be re-educated to a new art. Naturally, if the principal purpose of the theater patron in viewing a photoplay is to note the colors of the characters' clothes or of the shrubs, color photography would meet demands ideally.

Good Cinematography's Purpose

The present-day aim of good photography is to aid the telling of the story by suggesting the mood of the particular scene with the background that is used, by artistically managed lights and shades, and by the compositional use of furniture or scenery. But color, which excites our inherent sensibilities, is not such an aid. Motion pictures are an art in themselves and as such will grow just as the other arts have. It is not a branch of the stage, no more than it is a branch of music. It is just as distinct as music or painting, though, like the other arts, it may be said to have its interrelation.

Realism and the Artistic

Striving for realism, as introducing color into dramatic photography, does not necessarily constitute the artistic. True art does not necessarily mean the exact reproduction of nature which is not always the artistic. True art extracts from nature, but forms its own composition. The landscape painter is not bound to copy nature as it stands. He does not put every tree in nature's place. He paints a section, and makes a beautiful picture. Again, it may be said that the audience never fails to supply the necessary colors in viewing the cinematography of today.

The move to color dramatic motion pictures finds its parallel in the bid to color sculpture, which, I believe, was tried as an innovation, but which didn't prove successful. Imagine a beautiful marble statue with the face in the natural colors of a human being. Do you think the statue would be more beautiful? At any rate, the colored sculpture had no short-lived. It was not long before it died out and sculpture returned to its classical interpretations.

No Prejudice

The writer approached the matter of natural colors in cinematography open-mindedly, and the convictions which he has formed, have come after years of dispassionate reasoning on every side of the question.

Harry Fowler, A. S. C., is on location at Cananda, Shaver Lake, shooting "The Man from Outside" directed by Frederick Beck, Jr., and with Frank Mayo, Miriam Cooper, Stuart Holmes and other celebrities in the cast.

* * *

Robert Stuart, well-known Eastern cinematographer, passed away after a long illness at his home in Lynbrook, Long Island.

New Sensitometer for Determination in Positive Printing

Details given of new instrument
perfected by Eastman kodak
workers

By L. A. Jones and
J. I. Crabtree

From transactions, Society Motion
Picture Engineers. Complete in
this issue

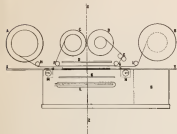


Fig. 1 Front elevation, showing arrangements of essential parts

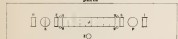


Fig. 2 Plan of top surface.

As a result of wide variations in lighting conditions, in exposure and in development, cinematographic negatives vary enormously in density and in contrast. As a result of these variations, the exposure required to produce the best possible print from such negatives must also vary widely in value.

One of the difficult steps in the production of satisfactory positive quality is the determination of the proper exposure to give in printing the positive material. At the present time in the majority of film finishing laboratories, this determination is made by experienced timers. The various negatives to be printed are examined visually by the timer and from his experience acquired by long practice in judging the density values in the negative and from his knowledge of the conditions in the printing machines, a judgment of the correct printing exposure is made. A timer who has had long training becomes expert in judging the proper exposure for a given negative. However, frequent errors are made and reprinting in many cases is found necessary.

Admitting the remarkable ability of the trained timer, errors in estimating the effective printing density of a negative are to be expected on account of the inherent nature of the human eye. One cause of such errors is the variable sensitivity of the eye to brightness and brightness differences. It is well known that the sensation produced by the action of a given light stimulus on the eye is dependent to a great extent upon the previous stimulation to which the eye has been subjected. Hence, unless great care is used in keeping the eye in a fixed condition of sensitivity, very large and serious errors in judgment may occur.

Color Variation In Negative.

Another factor which in many cases makes the determination of printing exposure by the visual judgment method very difficult, is the variation in the color of a yellow deposit in the negative. For instance, a negative developed in a pyro developer or in certain combinations

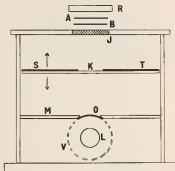


Fig. 2 Transverse vertical section showing arrangement of parts.

of metal and hydroquinone will give a silver deposit which is perceptibly yellow in color. This yellowness while producing a very small effect upon visual density may produce a very large and important photographic effect. A deposit which appears to be slightly yellowish to the eye may require a much greater printing time than a gray deposit of the same apparent visual density.

For these reasons it seems desirable, if possible, to develop a method for the determination of exposure from which the personal equation is entirely eliminated.

Micro-Densitometer Used.

When work was begun on this problem, it was thought that the direct solution lay in an experimental determination of the maximum density of the negative to be printed. A large number of experiments were therefore made, using a microdensitometer for the measurement of density of various portions of the negative. From these density values the exposure required to produce a just perceptible deposit through the highest density of the negative was computed and positives made according to these calculations. It was found that this method did not in every case yield a satisfactory positive. In the case of these negatives in which the contrast range was very low, the production of a just perceptible density corresponding to the maximum density of the negative resulted in a positive entirely too thin and having all of the characteristics of being underexposed in printing while, in the case of an extremely contrasty negative, the production of a just perceptible density in the positive corresponding to the maximum density in the negative, resulted in an over-exposed print. It was evident from these experiments that the most satisfactory positive is not always a result of producing a just perceptible density through the darkest portion of the negative. To utilize this method, it would seem necessary to decide upon what portion of the negative should be selected as a guide for printing the positive. The person deciding upon this would require considerable training and again the result would be dependent upon the personal judgment of a skilled observer.



Fig. 4. Front view of instrument mounted for use.

Another Method.

Another method of eliminating the estimation of printing time is to print a few frames of the negative under consideration using all of the light change settings available on the printing machine. Upon development it would then be very easy to decide upon the printing intensity resulting in the best quality of positive. The printing machine could then be set to light intensities thus determined and the negatives in question printed satisfactorily. Such a method, however, is rather laborious, requires considerable time and in many ways is somewhat objectionable.

In the sensitometer described in this paper, the general method of making trial prints using exposures corresponding to the various light change steps of the printing machine is employed. The method, however, is much simpler in that all the necessary exposures are made simultaneously and automatically by the sensitometer. This is accomplished by using what is technically known as a sensitometric tablet behind which a section of the negative under consideration is printed in contact with the positive material. The sensitometric tablet consists of a series of areas or spots varying in transmission. These areas are of the same size as a single motion picture negative (1.75 inch x 1.0 inch) and are arranged side by side in exactly the same way as the individual pictures on a motion picture film. The relative transmission values of the various areas are so adjusted as to correspond with the relative light intensity values of the printing machine with which the sensitometer is to be used. The intensity of the light source used in the sensitometer and the exposure time are so adjusted that the exposure incident on the positive material in contact with the area of a given number on the tablet is equivalent to the exposure given by the printing machine when set to the same number on the light change board.

The Sensitometer.

The arrangement of the various parts can best be explained by reference to Figures 1, 2 and 3 which are merely diagrammatic sketches in which no attempt has been made to retain actual size relationship or to show details of construction. Figure 1 is essentially a front elevation. The reel A carries the roll of negative to be sampled. The negative film passes from this reel to the rollers H and I to the rewind B. The unexposed positive is carried on the reel G, passes on to the rollers F and G to the winding reel D. These guide rollers and film reels are supported on the top of the sensitometer XY which is a brass plate 6 inches wide by 24 inches long. The sensitometric tablet J is mounted in a recess in the top of the sensitometer as shown so that the upper surface of the tablet is level with the upper surface of the sensitometer top. The platen R is moved up and down automatically by a mechanical de-

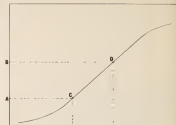


Fig. 5. Typical density-log exposure curve.

vise so that during the exposure the positive film is held directly in contact with the tablet and the negative film. After the exposure has been made the platen automatically rises and the film sprocket E advances the exposed positive film 12 frames so that a fresh portion of positive is in position ready for the next exposure. The exposed positive is taken up by the reel D. Two small circular windows of ruby glass are located at O and P. As the negative is pulled through the instrument by the rewind B, the operator can inspect the negative by means of these illuminated windows. Black lines are ruled across these windows in such position that when the frame lines on the negative are placed in register with the black lines on the windows, the negative is framed with respect to the various areas of the sensitometric tablet. These illuminating windows are lighted by means of two small 110-volt lamps, M, and N, enclosed in light tight compartments situated beneath the windows.

Exposing Light.

The exposing light L is a 40 watt incandescent mounted directly below the sensitometric tablet in the lower part of the sensitometer. Between the lamp and the sensitometer is placed a sheet of diffusing glass, K. The position of this diffusing glass can be varied in order to adjust the intensity of the illumination incident upon the sensitometric tablet. In the compartment marked S are located the necessary mechanical elements to give the desired cycle of operation. The lamp L is enclosed in a tubular shutter which is actuated by a mechanism such that when a lever is pressed, the tubular shutter element makes one complete revolution. As this shutter revolves the light from the lamp L is allowed to fall on the diffusing glass K and the positive film is exposed through the tablet J and the negative in position between the tablet and the positive film. The time of exposure is $1\frac{1}{2}$ seconds. The relative positions of the lamp and tubular shutter can be more clearly seen in Figure 2 which is essentially a vertical cross section along the line QZ in Figure 1. The positions of the platen, positive film, the negative being tested and the sensitometric tablet are indicated by the letters R, A, B and J, respectively. The diffusing screen K occupies the position as shown and is capable of being moved either up or down as indicated by the arrows. The extent of the diffusing screen which serves as an effective screen for illuminating the tablet is limited by the opaque members S and T. The lamp L is located at the center of the tubular shutter V. This shutter consists of a metal tube from which the portion indicated by the dotted line has been cut away leaving a single opaque segment: O. In the normal position, this opaque segment closes the slot in the horizontal member N so that no light falls upon the diffusing screen K.

(Continued on Page 11)



Volcanic rock formation works difficulties on setting up cameras securely. Being a retiring sort of gentleman, James Van Trees, A. S. C., always devotes his attention to his camera, stood with his back to the photographer who clicked this picture. Next him face to face in his accompanying article. Character in pose is Betty Compton, star of production.

More About Hawaii

By James Van Trees, A. S. C.

Additional cinematographic information
from A. S. C. member who films
famous volcano

As Jackson Rose pointed out in his article last month, we were both in Honolulu shooting productions at the same time but never once did our paths cross. This was due to the fact, no doubt, that we were working under different conditions; he shooting a travelogue, as he said, and I, a dramatic production.

We cruised with us on the steamer, the City of Honolulu, which was burned on the return trip, something like 13 tons of equipment including lights, cables and things electrical; and chemicals and laboratory equipment. When our party of 25, which included, besides Betty Compton, the star; the technical staff, John Crawford Moore, the director and the cast for "The White Flower"—that is the name of the Paramount production which we shot—when our party docked in Honolulu, we were greeted, strange to say, by natives who had heard of our coming and who were curious to see the "picture people"; it seemed

an even more beautiful one 'round the corner." Motion pictures of course were a novelty to the natives that is, the actual making of pictures, but we found them very willing to assist when the occasion offered itself. Our script called for a great number of natives to appear in the various scenes and we discovered that the Hawaiian is a natural-born actor. After they once comprehend what is wanted of them, they perform far better than the average extra of Hollywood.

For Tropical Specimens.

The cinematographer who is called on to film a variety of tropical vegetation will find his needs in the Foster Gardens, which, located near Honolulu, were originally a botanical reserve and which are said to contain every known species of tropical plant and foliage. We shot numerous scenes in this garden a walk through which seems like a beautiful dream. It was impossible to pick out the best place of all to shoot because it is a veritable paradise; it embraces fifteen acres.

Find Water Soft.

Before we arrived in Honolulu we had been warned that the water there would be very, very hard, and were advised to prepare our developing solutions accordingly. To the contrary, we found that the water which was to be had for use in our laboratory was very soft. The film, after being treated, would come out so soft that it could

Build Laboratory.

Within a week we had rented a cottage which we converted into a complete laboratory in which we developed and printed all of the work done during our stay on the islands.

As Jackson Rose emphasized, the islands are very rich in "locations." The director, the art director and I spent a number of days in traveling about to select locations which we invariably decided against when we would find



A view into the crater of the volcano which defines the human body and the delicate mechanism of the camera to venture down into the terrific heat of its depths.



Who has seen the wind? It was very decidedly present here. The gentleman is being thrown out his balance after the wind had thwarted him in his attempt to walk upright against it.

be crumpled up in the hand like a piece of silk and, when released, would come out without a hemish or indication of such treatment. The water which we used came from artesian wells.

Fish Like Cinema Drink.

The laboratory solutions were drained from the wash tanks into a sluice which emptied into the ocean only a few yards away. In the shallow waters of the ocean a few Japanese fishermen were plying their trade of casting out a net whenever they saw a fish about which, the net, weighted at the ends, invariably closed down like a balloon. The fresh water from the laboratory apparently attracted larger fish from the deeper waters. The few Japanese fishermen in the vicinity discovered this and clustered about the outlet to capture the unexpected prizes. We immediately warned them that they were in dangerous waters as the fish might possibly become poisoned from the type and the developer contained in the water coming from the tank. The next day, however, no less than 150 Japanese were looting about the mouth of the sluice participating in the harvest of the fish run. We tried to explain to them again but our efforts were fruitless. They evidently believed that we were endeavoring to induce them to leave so that we could pull in the fish for ourselves. After that, whenever we saw fish, we made thorough inquiries as to where they had been caught.

Forceful Winds.

Not far from Honolulu we found a place where it took all the strength of two able-bodied men to carry a single camera. It is the "Pali" where a road runs on the ledge of a steep perpendicular cliff in the gap between two hills. At this place the winds blow so strong every hour in the day, year after year, that to walk against them one has to bend over as if he were pulling a horse cart. In fact, one can lean over to a 45 degree angle in walking against these winds. One cannot face them upright else he will be blown over. If one stands in the same direction in which the wind is blowing and jumps, he will land ten feet away. Automobile tops are always put down before passing this point. This phenomenon is attributed to the trade winds which, blowing in from the ocean, strike the hills and without any other outlet pour their concentrated forces through the gap.

Humidity Great.

The humidity was very great in Honolulu, so great in fact that at times, as an example, if one were sitting in a chair and saw an object a few feet away, he would be so lacking in energy that he would "prego" having it rather

than arduous to get it. When we arrived at Hilo, on our way to the volcano which is 30 miles from that city, the humidity was even greater. As a precaution we taped up all our cases. Once arriving at the volcano, which has an elevation of approximately one mile, the atmosphere became bracing and invigorating, comparable, in truth to that of California. It was then that we realized how depressing the humidity in the lowlands really was.

At the Volcano.

We remained at the volcano a week, quartering at a ledge nearby. At the time of our visit, the volcano com tents were 650 feet below the edge of the crater. It was here that some of the most important scenes of the picture were filmed. Unaccustomed to the nature of the volcano, I planned to get a close-up of its interior by having some of the staff lower me with cables while I carried the camera and did the shooting. Government officials explained my foolhardiness. A thermometer of 150 degrees Fahrenheit burst on reaching a 100-foot level. I was informed that the way the temperature above the lava surface was calculated, was by recording the melting point of iron pipes lowered to the crater.

It is said that the volcano exacts a pair of shoes from every person who visits it. This is literally true. When we first arrived there, I was wearing a new pair of heavy mountain boots. Before we left, I was virtually walking on my bare feet. The volcanic rock is the cause. It is as sharp as glass and to a degree, I personally believe, poisonous. Most of our scenes there were made after seven o'clock at night. In order that no one would fall into the huge cracks which, caused by the heat, go down many feet around the edge of the crater, we made a circle of white-wash around the hem. In doing so I handled some of the rock and though I was very careful with it, I was scratched about the hands in many places. These scratches required a very long time to heal. In the absence of electrical provisions at that location we used flares for lighting.

Hot Face—Cold Back.

One can stand on the edge of the volcano and his face will be almost roasting from the heat while his back, because of the altitude, will be freezing, it seems. We used 60 natives for the scenes. They worked when they did work, but always welcomed the order to quit. At first I experienced not a little difficulty in getting them to halt their action after I had finished shooting a scene. I would yell "that's all, cut it out, that's enough, stop, halt," in my efforts to convey my meaning. But most times they continued doing what they had been doing before. At last I hit upon their word, "puu," and whenever I uttered it, all

(Continued on Page 17)

As New Year Came



Nineteen Twenty Two introduces his cinema charges to his successor.

"I am Nineteen Twenty Two. I am about to depart forever and will turn my work over to my successor. When I first took office, Motion Pictures, you were being threatened by old man Public, but regardless, you have danced merrily along the path of progress to the tune of many new and magnificent theaters. During the three hundred and sixty-five days of my reign, you have given us some mediocre work and Motion Pictures, I warn you, quantity is not always a sign of advancement. Be careful lest the Good Public grows cold and loses interest. Before I depart, I shall call on your components to state their case and introduce themselves and speak up."

ENTER: Great Producer;

"I am Great Producer! I have turned out the greatest number of pictures of any one concern. My ambition is to make them all. I control my distribution and am grabbing up all the theaters I can lay hold of. I have put Motion Pictures on a sound business basis. I must continue to make good pictures, because I have not yet killed Competition, otherwise my system is well organized."

Independent Producer;

"Alas, I am Independent Producer! I have been horribly discouraged and am really afraid to do anything on a lavish scale. I had anticipated great things but have suffered untold tortures. Perhaps I shall summon up courage and secure the aid of Financial Backing, who will put me on my feet. I must watch my step and be careful of Great Producer."

Star System;

"I am Star System! My popularity has been established by the Public. Great Producer has almost run me ragged by working me to death and overdoing a good thing. He is strong for quantity and lets quality suffer. Oh! where is Art?"

Independent Star System;

"Well, I am Independent Star System! I have thrown off the shackles of Great Producer and his factory methods. I have gone out on my own and make fewer and better pictures and see how successful I have been. I have done much to preserve my art."

New Invention;

"I am New Invention! I have given the public some very fine examples of stereoscopic and color photography and braided, talking pictures. But dear Public does not acclaim my efforts and evidently does not seek a change just yet."

Scenario;

"I am Scenario! I am a descendant of Story and am sought by all. I have suffered great humiliation at my treatment but finally getting before the public. I am in a terrible rut and must rack my brain for new twists in my plots. I am the foundation of Motion Pictures. I feel myself weakening and I am so important. Can I keep faith with the Public & while longer?"

Photography;

"Ah! I am Photography! I am the one eye of Motion Pictures. My cameras have done noble work and have reached a high degree of perfection. Bad camera work is more the exception than the rule, and I thank co-operation and on exhibition. I have been the last to capitulate to commercialism."

Laboratory;

"And I am Laboratory! My condition has not changed greatly. I realize I am in need of assistance as Producer continues to burden me with his latinate rush work. I

know I am holding back Photography. When will I be given time to study the Public and know it well."

Publicity;

"I am Publicity! Everybody knows me and I work hand in hand with Exploitation. Together we do much to put Motion Pictures on the map. We have advanced our work tremendously and have become an absolute necessity. We study the Public and know it well."

Distribution;

"I am Distribution! Motion Pictures cannot exist without me and I require considerable percentage to keep me satisfied. But the Public feels the bill and thanks that Producer gets it all."

Theater;

"I am Theater! I have done my share to improve things in a general way for Motion Pictures. Public is my closest friend. I have killed off 'Nickelodeon' and 'Steam Press'. I am allied with Presentation and together we give Motion Picture a better deal, assisted by Good Projection, Ventilation and Pipe Organ."

Admission Fee;

"Yes, I am Admission Fee! I am constantly juggled about by Producer, Distribution and Theater. I have become an unstable quantity. I must appeal direct to the Public and it must be remembered that my greatest support comes from Lower and Middle Class. Exceedingly Wealthy has not as yet completely fallen for Motion Pictures. I must go easy as I am sometimes called Luxury and have Necessity as a competitor."

Veiled Mystery;

"What is that Veiled Mystery hiding in the corner? An uninvited guest. Who are you and what is your business in connection with Motion Pictures?"

"He! He! Oh, I am Scandal! I am always hanging around to give Motion Pictures a black eye. I whisper in the ear of Reform, who is always active and in search of new fields of endeavor. Beware of me. I have not been idle and I shall lead Motion Picture a merry dance during the reign of Nineteen Twenty Three, if I—"

"Stop where you are! I am Educational Film! I have done and can yet do much for Motion Pictures and my possibilities are without limit, if I am only to be more seriously considered."

1 9 2 3 ;

"Well, at last I have arrived. I am Nineteen Twenty Three and there is much to be done during my reign of three hundred and sixty-five days. Let Motion Pictures not be misjudged nor misused. Let not the sins of a few descend upon the heads of all. Motion Pictures is not a husky youngster, scarcely fifteen years of age. All of you be on your way and let us see what progress you have made at the end of my term, for I am the NEW YEAR!"

COOPER HEWITT ISSUES INTERESTING PAMPHLETS

The Cooper Hewitt Electric Company has issued its report, Number 48, "Artificial vs. Natural Light" by E. Leavenworth Elliott, as well as its bulletin, Number 48-A, which is a complete catalogue of Cooper Hewitt photographic outfit.

Those desiring copies of these pamphlets may obtain them by addressing A. D. Childs, sales manager of the Cooper Hewitt Corporation, at its main office, at Brooklyn, New Jersey.

The Editors' Corner

—conducted by Foster Goss

AN ANNIVERSARY

Just as this is the birth of a new year, this month marks the fourth anniversary of the founding of the American Society of Cinematographers. In January 1919, fifteen ace cinematographers, recognizing the good which could be accomplished by an organization representing the highest ideals in cinematography, banded together and formed the society which, through these forty-eight months, has more than justified their foresight and vision.

The motto which was established—"Loyalty, Progress, Art"—has been upheld and observed until today, more than ever before, membership in the American Society of Cinematographers is synonymous with sterling cinematography. No man is elected to that organization unless his achievements warrant the honor; his record must be brilliant and substantial with deeds well-done, deeds which measure up to the motto which reigns as real rather than abstract.

Since motion pictures are a comparatively new art and industry which evolves rapidly, if imperceptibly, many changes have come since January 1919, but the American Society of Cinematographers has not only kept abreast of such changes but it has progressed in the van, so that now, as then, it is representative of the best in cinematography. If the production personnel of those photoplays which have been reckoned as noteworthy in the past several years is consulted, the worth of the A. S. C. members will be readily appreciated. They are men who speak in celluloid rather than in words. Their art, their loyalty, their progress, have preserved for the future a record of the abilities of others at their best; and in the same operations these men have immortalized their own superlative accomplishments. Even though they still may be classified as the pioneers in this vast game of motion pictures, it is entirely conceivable that their masterpieces will be studied as the criterion by unborn generations of cinematographers, even though the latter will be favored with inventions which the mind of man as yet has not uncovered. And it is to be hoped that people in the dim years to come will not have to wonder vainly who filmed such masterpieces; it is to be desired that justly given screen credit will eliminate the possibility of the cinematographer of today becoming unknown genius to audiences of a century hence.

In the advance of motion pictures what has been more significant, whether or not the fact is recognized in some quarters, than the progress of cinematography and the technical side of the calling? Truly, such progress has won to the screen personages who refused to give their talents to the cinema when it was in its technically rough state. So great has been the technical advancement, in fact, that it has been the preponderant

factor in the decision of various luminaries to re-film productions in which they triumphed years ago.

Because the cinematographer works with a machine is no legitimate reason that he should be considered as mechanic. He must be essentially an artist, besides possessing his practical traits, else he would never be a successful cinematographer—else players would never reach the public at their best.

Through its organized effort, the American Society of Cinematographers has done much for motion pictures and gives every indication of carrying on. Its membership numbers not only the great staff cinematographers of the various producing companies, but it embraces the dramatic freelance who like the freelance actor and the independent producer is a vital power in films.

Even as the need for a cinematographic society was realized, the place for a publication devoted to the technical phases of motion pictures was early detected by the American Society of Cinematographers. Accordingly, some two years after the incorporation of the organization, the American Cinematographer made its first appearance. A two-sheet affair, it was modest enough at first, but the judgment and foresight of its sponsors were again justified. Being likewise a pioneer, it was greeted warmly from the beginning. It was breaking ground in a field which had long awaited cultivation. By degrees it grew and prospered until it was enlarged into a semi-monthly magazine, which proved even more popular than its predecessor. Its success may be said to have been whirlwind.

Its scope widened so speedily that, in the early part of the past year, it was converted into a national monthly magazine to take care of its growth.

As it looks back, the American Cinematographer believes that it has reason to be proud of what it has done, just as has the American Society of Cinematographers. But as rapid as its rise has been, even though it is more successful now than ever before, this publication does not propose to rest on its oars, to content itself with laurels of the past or the present. It intends, as the American Society of Cinematographers has done, not only to keep abreast of the expansion of the motion picture art and industry but to forge ever ahead, well in the van.

A Pertinent Question and an Answer Thereto

Encircling the interest which the motion picture patron is beginning to feel more and more concerning the actual production of the photoplay, the writer discusses certain affairs which have come to his attention as the layman.

By Arthur Q. Hagerman

Is there a close enough relationship between the camera artist and the screen author?

This question is merely the query of a lay person, comparatively speaking. That is, the writer is neither interested in cinematography nor scenario writing, except theoretically, but having been an observer from the standpoint of a newspaper reviewer, he feels privileged to indulge in an interrogative outburst. In the critical capacity on a newspaper he came to the conclusion several times that one thing wrong with the mass run of photoplays was that they didn't show a perfect alliance between the angles and compositions of photography and the meaning the scenario writers put into scenes. Now in publicity work, he has had opportunity for some time to observe the actual working conditions of cinematographers and the possibilities of their full co-operation with the author and director in transcribing to pictorial form what the continuity says.

The Layman's Angle

Observation has deepened this conviction to a certain extent, but so far it has failed to definitely establish the causes of the fault. It may be that cameramen don't get their script copies early enough in production. It may be that the scenario writer should always be on the set. It may be that the director in some cases doesn't fully sense the importance of perfect alignment between the mental perspectives of the two different artists, cinematographer and scenarioist. It may even be, in rare instances, that the cinematographer has the idea that what the director says on the spur of the moment is the only thing he needs pay heed to.

Examples Cited

To illustrate what is meant by co-operation of this sort, there are various good examples to draw upon.

In Mary Pickford's "Tess" there is a scene between lovers, sitting on a fence, where the boughs of trees seem to shelter and protect the budding romance, and the character of the photography is—the writer has no technical language at his command to describe it—extremely clearcut at the center, around the faces, and around this center radiates an increasing indefiniteness or "soft focus," which emphasizes the beauty of the scene. The apparent protection of the tree limbs, the romantic beauty of the shot—all these details heightened the effect of the scene which otherwise would have been merely a shot of two lovers hewn at their sentimental playing. Roache and Browning were the cinematographers.

In "The Storm" there are numerous scenes with House Peters, Matt Moore and Virginia Valli which are heightened in their cleverness by subtle touches in camera work. The photography seems almost "effeminate" at times where Moore is playing the "soddy," and it is exquisitely simple and clear where the heroine of the forests, impersonated by Virginia Valli, makes her appearance.

Edson's photography on "Robin Hood" is getting the praise it deserves, and it is quite evident, too, that he had the clearest understanding with the artists who designed the sets. There is a consciousness about the general effect that is visible in interior scenes as well as in the mini-

Considering the things mentioned by the layman writer, the Cinematographer deals with their ramifications as understood from years of experience in the various branches of cinematography, giving attention to his personal experience and that of others.

The Answer:

Is there close enough relationship between the camera artist and the screen artist?

Speaking for myself, unfortunately, I have failed as yet to have the pleasure of meeting many "Screen Authors," in the true sense of the word. Most authors that I have met have really been continuity writers whose ignorance of camera possibilities is appalling. Of course, I, as well as any cinematographer, favor the closest co-operation possible between the camera artist and the film writer, the most successful of whom "know" the camera thoroughly. The reading of any out-of-focus continuity is probably the closest I ever get to the adapter. By "out-of-focus," I mean, incidentally, the "mth" carbon copy of the continuity so that it is scarcely readable.

Cinematographer Should Visualize Story

The average recognized cinematographer, on being given the script, endeavors to visualize the story according to the meaning which it is desired to convey. He studies each scene in his effort to gain the maximum cinematic graphic results. He makes notions as to the manner in which the various scenes may be lighted and offers such illuminating possibilities to the director for the latter's consideration. Of course, if the cinematographer is not handed the script in time, it is impossible for him to give the necessary deliberation to each scene—and such deliberation is necessary if an excellent production is expected to result. The fact is becoming appreciated that it is these organizations, whose policy is sensible and sincere co-operation between every department, that are producing the best motion pictures. It is inevitable that such organizations should attain the best results.

Wrong Kind of Speed

It is a regrettable fact that every cinematographer does not receive his copy of the script in time and that when he does receive it he may have to contend with one of the directors of the old school who still imagine that there is a halo about their square heads and who still believe that the only person necessary to produce a picture is the director. Usually it is the cinematographer who is shackling program pictures that works under the greatest disadvantage in the matter of being able to give proper attention to the script. I know of many instances wherein, at the time the production was started, the director's script consisted of merely a few pages of scenes and when these had been filmed in accordance with time demands, the production force had to wait until the scenario department completed other scenes. How much better would it be for all concerned if everyone who needed the script had received his copy in entirely well before actual photography was started. Pictorial beauty is essential in any production. But how can beautiful photography, composition and proper lighting be obtained when a production manager is constantly crying for footage? It stands to reason that if the screen writer is working under conditions where proper co-operation between him and the cinematographer is not encouraged such a writer will not have the pleasure of seeing his story or adaptation reach the screen in the best manner possible.

(Continued on Page 13)

(Continued on Page 17)



When the planning of the work was forgotten for an instant, being a "between scenes" scene in Joe May's endorsed studio in Berlin-Belvedere during the production of "The Power of Love," which, it is claimed, will be the most expensive German production to date. The technical staff surrounds May, who is shown holding the arm of his wife, Miss May, who has been seen as a star in this country. The gentleman with the basket on his arm is Paul Leal, celebrated in Europe as a scenic artist, whom May has secured as a technical director.

Central European Cinematography

By Charles Stumar, A. S. C.

Austrian Studios very small Berlin bustling with production Extra talent cheap in large numbers

Last summer the writer was selected as the cinematographer with the party which the Universal Pictures Corporation planned to make the production personnel of motion pictures to be made in Europe. The party included Harry Myers, Edward Laemmle, director; Edward Lowe, Jr., scenarist; Ernest Laemmle and Tenny Wright, assistant directors; Frank Atkinson, film editor; Martin Bond, scenarist; business manager, Mrs. Stumar, and the writer.

We left that beautiful blond girl, Miss Liberty, with the torch in her hand, on June 17th. We were slated to travel on the S. S. Majestic which, however, could not take care of the entire party, so that we took passage on different liners sailing on the same day. Frank Atkinson, Mrs. Stumar and I were assigned to the White Star liner, S. S. Cedric, bound for Liverpool, England.

No Camels On Ocean

What struck me as rather strange after we had proceeded three miles or so beyond the statue of Liberty, was the impelling thirst of my fellow passengers, 80 per cent of whom were Irish and headed for Queenstown, Ireland. When the three-mile limit was reached, the bar was so crowded that those desiring Scotch had a hard time getting their foot on the rail. Four days out, the supply of all kinds of fire-water was exhausted. The attendants of the bar remarked to me that it was the first time of their long smuggling careers that they had sold out.

Liquor Leads to Revolt?

One night the passengers gave a dance on the promenade deck which was decorated with the flags of the Allied nations. Because the Irish flag was not put up—mind you, a ship of "His majesty"—the Irish passengers started a small revolution. Threats were flying in the air left and right. Believe me, I could see the ship sunk in mid-ocean. But the captain was very tactful and armed the crew and officers with automatics, so that the embryo revolt soon passed. It took us ten days to cross the big pond, and when we arrived in Liverpool, we hadn't experienced a sick minute.

Before we left New York we were ordered to get to London and to wait there for the rest of the company, but a cablegram from Carl Laemmle, the Universal president, changed everything. I was directed to go direct to Vienna, so I knew that the picture, "Ivanhoe," which we were supposed to make in Scotland, had been changed for another subject.

Holland Atmosphere

We traveled from Liverpool to Harwich where we embarked on a channel boat for Hook van Holland. Arriving there the next day we took the train for Berlin. We went through some beautiful country in Holland. The dykes, the quaint little Dutch houses, beautiful flower gardens.

(Continued on Page 28)

Overdone—

perhaps, is the admonition to "start
the new year right." But we
don't believe that you could
go wrong in presenting
your friend with a
subscription to
the American
Cinematographer.

We would suggest that
you pass your copy on, if we
didn't know that so many of the
readers file each issue for reference.

The American Cinematographer—

Herewith find \$2.00 to pay for one year's subscrip-
tion to The American Cinematographer, subscription

to begin with the issue of 1923

Name

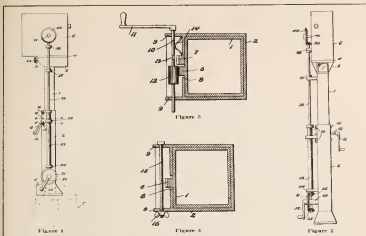


Figure 1

Figure 3

Figure 2

A Camera Periscope



Washington man is awarded Federal patent on periscopic attachment for motion picture camera.

A periscope attachment for motion picture camera has been invented by William C. Cox of Washington, D. C., who has been awarded a United States patent covering the apparatus. While wartime use for the attachment evidently was prominent in Cox's calculations at the time his application for patent was filed, the periscope, if its practicability can be conclusively established, no doubt will find its greatest possibilities in peace-time work. Just how far it can go toward replacing the platform for elevated shots remains to be seen.

Cox sets forth the details of his invention as follows:

This invention relates to improvements in optical attachments for motion picture cameras, and it is the principal object of the invention to provide a combined periscope and support for motion picture or similar large and heavy cameras, whereby the same can be successively employed for photographing objects not within focusing range of the camera when in its normal position, that is, upon the stand or tripod usually employed to support the same, thus rendering a camera so equipped advantageously adaptable for use in trench photograph work and like uses where it becomes necessary that the camera employed be arranged above the head of an operator and sufficiently high to clear any obstruction such as the wall of a trench, in order that the object to be photographed may be properly located in its lens, the periscope attachment rendering it possible for the photographer to view an object focused in the camera which is supported in a plane above his head without effort and from his usual position, hence, materially facilitating the "shooting" of the picture. It is also an object of the invention to provide a periscope attachment of the character mentioned which can be adjusted to various heights, whereby the camera supported

thereon can be elevated sufficiently to clear the object or obstruction over which the picture is to be "shot."

Yet another object of my invention may be stated to reside in the provision of a periscope attachment which can be secured to the various makes or designs of motion picture camera stands or tripods now prevalent, with but slight alteration thereto, and which, when in position thereon, will be held against any undue movement or detrimental vibration.

Other objects will be in part obvious and in part pointed out hereinafter. In order that the invention and its mode of application may be readily understood by persons skilled in the art, I have in the accompanying illustrative drawings, and in the detailed following description based thereon, set out what I believe to be a preferred embodiment of the same.

In these drawings:

Figure 1 is a side elevation of the improved periscope attachment showing the same supporting a motion picture camera and in position upon an ordinary tripod,

Figure 2 is a similar view taken at right angles to the Figure 1;

Figure 3 is a transverse section through the periscope attachment taken on the line 3-3 of Figure 1,

Figure 4 is a similar view taken on the line 4-4 of Figure 1;

Figure 5 is a fragmentary enlarged detail in section showing the camera supporting shell on the fender end of the periscope and the means for securing the camera thereto;

Figure 6 is an enlarged fragmentary detail in section through the lower portion or observing portion of the per-

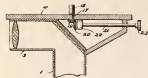


Figure 5

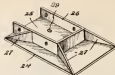


Figure 6



Figure 7

scope showing the gear for transmitting rotary driving motion to the camera shutter, and,

Figure 7 is a detail in perspective of one form of bracket employed for securing the periscope attachment to the tripod.

HAVING more particular reference to the drawings, in connection with which like reference characters will designate corresponding parts throughout the several views, the improved periscope attachment comprises telescopic tubular sections 1 and 2, the section 1 being provided with a right angularly disposed flange end 3 carrying on its upper side a shelf 4 upon which the motion picture camera is adapted to be arranged, while the lower end of the tubular section 2 is provided with an oppositely disposed right angular portion serving as the observing end of the periscope and designated by the numeral 5.

It becomes desirable to provide means for extending or telescoping several sections 1 and 2, and to this end, I provide on one side wall of the inner section 1, a series of gear teeth 6 constituting the usual rack while a second and similar series of these teeth 7 are formed on the adjacent wall of the section 2, it being noted in this connection that that wall of the section 2 carrying teeth 7 is slotted as at 8, in order that the series of teeth 6 on the tubular section 1 may extend through such slot to a point in proximity to the teeth 7.

The side walls of the section 2 are extended as at 9 and have a transversely disposed shaft 10 journaled in bearings therein, a crank handle 11 being secured to one end of the shaft whereby to facilitate rotation thereof. In this connection, it should be noted that the shaft 10 is slidable in its bearings in the extended portions 9 of the side walls of the telescopic section 2 and that the same carries a pinion 12 thereon rotatable with the same and adapted to be normally meshed with the series of teeth 6 extending from the tubular section 1 through the slot 8 in the section 2.

Thus, it is obvious that when the shaft 10 is rotated, reciprocating motion will be imparted to the tubular section 1 in a direction depending upon the direction of rotation, causing said section 1 to be extended or telescoped with relation to the section 2. To secure such section 1 in an adjusted position with relation to the section 2, it is only necessary that the shaft 10 be slid in its bearings in the extensions 9 whereby to bring the pinion 12 into engagement with the adjacent teeth 7 on the immovable section 2.

By reason of the fact that the pinion 12 spans the space between the teeth 6 and 7, it naturally follows that the resultant connection between such teeth will serve as an effective locking means as between the sections 1 and 2, retaining said section 1 in its adjusted position. I may and preferably do form a way or seat 13 in the shaft 10 and arrange a curved spring 14 on the section 2 adjacent said shaft in order that when the shaft is slid to one side to effect connection of the pinion 12 between the teeth 6 and 7, said spring will immediately seat in the way 13 and in consequence, temporarily or releasably lock said shaft in adjusted position until positively shifted to its rotating position. As additional means for securing the sections 1 and 2 in adjusted relation and to prevent vibratory movement of a camera supported on the shelf 4, I preferably

pass bolts 15 through the extensions 9, engaging wide flange 16 with their threaded extremities as shown in the Figure 4.

By tightening these bolts and wing nuts, it is obvious that the opposite sides of the section 2 will be drawn inwardly until section 1 is snugly received therein, movement of the opposite walls of the section 2 being permitted by reason of the forming of the slot 8 therein. To secure a camera C in position upon the shelf 4 against displacement during operation of the same, an upright stub shaft 17 is journaled in bearings on the intermediate portion of the shelf 4 as shown in the Figure 5, the upper end thereof being enlarged and screw threaded as at 18 for engagement with the usual screw threaded opening in the camera C, while a beveled gear 19 is carried on the lower end of the shaft and meshes with a corresponding gear 20 mounted on the adjacent end of a horizontal shaft 21 journaled in bearings 22 carried on the underside of said shelf 4 and having a knurled finger piece 23 arranged on its outer end, whereby rotation of said shaft 21 with the resultant transmission of rotary motion to the screw 18 can be readily effected by a person desiring to secure a camera in position upon the shelf 4. Various forms of brackets or devices may be employed for attaching the periscope to the shelf or platform of a tripod fragmentally shown in the drawings and indicated at T.

However, for the purpose of illustration and convenience, I employ a form of bracket such as indicated in its entirety by the numeral 24 for securing the lower or observing end of the periscope in position upon the tripod platform. This bracket consists of a basal portion 25 having arranged thereon a substantially U-shaped bracket 26 braced with relation to the said basal portion by diagonal webs 27, while securing screws 28 are passed through the sides of said bracket 26 and are adapted to be engaged with the adjacent portion of the section 2 of the periscope.

It, of course, will be understood that to engage the periscope in the bracket 24 it is only necessary that the same be moved laterally into engagement with the bracket 24, whereupon connection of the screws 28 between said bracket and periscope is effected. To secure this bracket 24 in position upon tripod platform, I may and preferably do form an opening 29 in the basal portion 25 through which a screw or similar form of fastening device may be passed into engagement with said platform. With a view towards providing means for transmitting rotary driving motion to the camera shutter, a bearing 30 is arranged on the lower portion of the section 2 and rotatably supports a beveled gear 31 carrying a crank handle 32, the lower end of a shaft 33 which is mounted in bearings 34 on the section 2, is positioned adjacent the beveled gear 31 and is provided with corresponding gears 35, one of which is idle while the other is secured to said shaft 33.

These gears, as shown in the Figure, engage with the opposite sides of beveled gear 31 and upon rotation of said gear through the medium of this crank handle 32, rotary motion will be imparted to the shaft 33. This shaft 33 is hollow and receives therein one portion of a flexible shaft 36, which shaft, is in turn, journaled in bearings 37 and 38 arranged on the section 1 and the camera C respectively, a beveled gear 39 being affixed to the upper end of the

flexible shaft and meshing with a beveled gear 46 carried on the shutter operating shaft 41 of the camera C. In arranging the camera C on the shelf 4 arranged on the upper side of the finder end of the periscope attachment, the lens of the camera is accurately aligned with the finder lens of the periscope, so that the view reflected or focused in the camera will correspond accurately to the view reflected in the observing end 5 of the periscope. With my improved periscope attachment, it will be appreciated that I provide a device possessing practical and meritorious features. The device may be used to advantage in military photographic operations, such as in trench work, wherein it oftentimes becomes necessary, or at least desirable, to secure a photograph of certain positions of an enemy.

To do this, it is necessary that the camera be raised upon the walls of the trench in order that the lens thereof will be provided with a clear and unobstructed view. The photographing of pictures of this nature is usually carried out by the raising of the camera to a point upon the trench wall, pointing same in the general direction of the object to be photographed and then "shooting" the same blindly. Such procedure frequently gives unsatisfactory results and in consequence, entails considerable expense, in addition to loss of time and labor.

With my device, the camera when in an elevated position, can be accurately directed so as to focus the entire object to be photographed, such object being clearly reflected in the observing end 5 of the periscope and in consequence, eliminating "at random" shots. A user of my device farther, is not compelled to change his usual position irrespective of the elevation of the camera and hence, does not have to expose any portion of his body to the fire of the enemy. The device also possesses considerable commercial merit, as for illustration, in the photographing of parades, etc., at which times, the position of the photographer is often such that he must support his camera upon a specially constructed platform, ladder, or other device, in order that he may have an unobstructed view over the heads of persons or other objects in front of him.

With my device, it is only necessary that the periscope be extended to a point wherein the camera will be sufficiently elevated to afford a clear and unobstructed view in the observing end 5 of the periscope attachment whereupon objects may be photographed. Manifestly, the construction shown is capable of considerable modification and such modification as is within the scope of my claims, I consider within the spirit of my invention.

The Answer.

(Continued from Page 12)

Successful Director Appreciates Cinematographer

Notwithstanding the type of director who represents the opposite extreme, no one realizes more than a real director does the value of good photography and what provisions must be made in order to get it. Unfortunately we still have a few in our great industry who continue to believe in the one-man idea, for, mind you, a certain director recently remarked that in his productions photography decidedly is secondary. "I want this set built facing the sun," he said, "so that I can get shooting light from early morning until late in the evening." Did he properly appreciate as leading directors do what tremendous assets artificial lights, handled by the skilled cinematographer, are?

Personally, I have been fortunate in obtaining my script in plenty of time so that I could make every effort to carry out the author's ideas and in being associated with a director who has implicit faith in my ability, as the director must have in the cinematographer if the production is to rise above the ordinary. But my good fortune does not prevent my observing conditions as they exist for others.

DIRECTOR SPEAKS IN DEFENSE OF CLOSE-UP; CLAIMS IT AIDS TELLING OF STORY IN FILMS

Much has been said on either side concerning the advisability of the close-up. An old form of motion picture though it has become, it is still championed by many as indicated by the contentions of Gasnier, the director.

"Who said abolish the close-up?" he asks.

Gasnier, who has just completed "Thomas and Orange Blossoms," the new Preferred Picture filmed with an all-star cast at the E. P. Schallert studios, points to the means by which this pictorial agency is used to advance the plot of the Bertha Clay story.

"The close-up is an agency for putting over a thought that is not possible on the speaking stage," said Mr. Gasnier. "It need not be ugly, it need not be flat, it need not stop the action, as so many directors say is the case. When the action requires it we simply move into the close-up to emphasize points that could not be developed in any other way. To abandon this means of telling a story would be as sensible as for a man with a good voice to cease using it and take to talking on his fingers."

More About Hawaii

(Continued from Page 8)

action ceased within the bat of an eye. It seems to be a favorite word. It's never, "when are you going to finish with this scene or when will finish the picture", rather it is "when are you going to be 'pair' with the picture," etc.

A Japanese Puzzle.

The Japanese rice growers have a very novel way of keeping the birds out of the rice fields, we recorded the method in column. In the center of the field is a palm-covered platform from which strings, a few feet apart, run out in every direction to 10-foot poles over the entire field. On these poles are tied old cans filled with rocks and scrap iron. Whenever a bird alights in some part of the field, the Japanese who occupies the platform will pull a string which leads to that part of the field with the result that a wild, clanking noise will arise there, frightening the bird away. How they ever angle out the proper string to pull is the question.

I was surprised how well speed stock and a 19 lens worked for early morning and night staff. I gained some remarkable results with this combination at times when the second camera, using the usual arrangement, obtained records in which faces were scarcely recognizable.

Robert Newhard, A. S. C., may lay claim to acting barrels as well as to those of an ace cinematographer. At the recent "preview" held by the Actors' Equity in Hollywood, he appeared in the role of a cinematographer. His "Emin" brought roars of laughter.

Paul Petry and Robert Kurrie, A. S. C. members, consider themselves the champion duck hunters among the cinematographers, having bagged the limit in two trips recently into the mountains of Southern California. Penrhyn Stanlaws was a member of their party.





David Abel, A. S. C., has finished photographing the Fox production, "The Bachelor," with Doris Fenn and Dustin Farnum, and directed by Colin Campbell

Reginald Lyons, A. S. C., has finished filming a travesty on "Oliver Twist" for Joe Rock comedies

George Barnes, A. S. C., will photograph an original all star Lewis Burstein production for Metro, to be directed by Rowland V. Lee

Norbert Bredin, A. S. C., will film the next Constance Talmadge vehicle.

Max De Font, A. S. C., is filming "The Tunnel Harvest," directed by William Senter.

Ross Fisher, A. S. C., is shooting Johnson's "Westbound 33" at the Robertson Cole studios

Kenneth MacLenn, A. S. C., is photographing Carter De Haven comedies

L. Guy Wilky, A. S. C., is making preparations for the filming of "Gaumy," William de Mille's next production for Paramount

Homer Scott, A. S. C., will photograph Warner Brothers' production of "Main Street"

Ben Khm, A. S. C., is filming the Universal production of "Jewel," directed by Lola Wilson

Charles Schoenbaum, A. S. C., is photographing "Mr. Belong Spends His Day," starring Walter Hiers.

Rolfe Tetchenok, A. S. C., is filming "Destiny," starring Edna Paviance, and directed by Charlie Chaplin

Frank B. Good, A. S. C., has finished photographing of "Toby Tyler," starring Jackie Coogan

Francis Corby, A. S. C., is adding photographic genius to Jack White comedies which he is shooting

Sol Polito, A. S. C., has returned from New York to shoot the next Edwin Carewe production which is to be made in Los Angeles.

Ben Reynolds, A. S. C., has joined the Goldwyn cinematographer forces to photograph Eric Von Stroheim productions. Reynolds was chief cinematographer of "Foolish Wives"

Allen Siegler, A. S. C., has left for New York City on a business trip

The following letter has been received by the American Cinematographer from L. Guy Wilky, an A. S. C. member: "The list of releases for November gives me credit as being one of the cinematographers of 'Hanslaughter.' I desire to state that I had no connection therewith, as my activities are confined to William de Mille productions. (Signed) L. Guy Wilky"

Ernest Depew, A. S. C., is shooting the latest Al St. John comedy for Fox

John Arnold, A. S. C., is photographing "Her Fatal Mil-lions," starring Viola Dana.

Charles Van Enger, A. S. C., is photographing the Fred Niblo production of "The Famous Mrs. Fair"

Roy H. Klaffki is no longer a member of the American Society of Cinematographers.

W. S. Smith, Jr., A. S. C., has been in San Francisco shooting a Vitagraph production, featuring Earle Williams and Alice Calahan

Rudolph Benzant, A. S. C., is photographing Metro's production of Willard Mack's, "Your Friend and Mine."

Victor Milner, A. S. C., has begun filming of the latest Universal production, starring Gladys Walton and directed by King Baggot

On his return from New York City, where he had been filming initial scenes for a forthcoming motion picture, Tony Gaudin, a member of the American Society of Cinematographers, was greeted with the sad news that his beloved mother had died suddenly in the Eastern metropolis while he was en route to Los Angeles. He was unable to return to New York in time to attend the funeral services.



Here Gaudin, A. S. C., showcasing production details with Sam Marsh between shots in making of "Foolish Wives," the latest production for Willson Productions in London, England. Gaudin, who has been in the tight little role for some time, is receiving the praises of English critics for his wonderful photography.

The Questions:

(Continued from Page 12)

tered long exterior shots, and it accords well with the spirit of the plot.

"The Flirt," Booth Tarkington's novel, presented a story of family life, and in the production of it under Mohart Hesley's direction, the photography by Charles Kaufman emphasized family groupings. The difference between the way Helen Jerome Eddy as the hard-working, frugal sister, and Kileen Percy, as "The Flirt," were photographed, is something worth seeing. Practically every shot of Miss Eddy's individual work accentuates the simplicity of the character she is playing. It is very clear-cut and for the most part it is simple in effect. On the other hand Miss Percy was shot from various angles, with varying focus, and some close-ups of her in soft focus are extremely beautiful. Everything was done to make the two personalities appear as opposite on the screen as possible, and it is reasonable to conclude that the photography helped to achieve the effect.

In "The Power of a Lie," a dramatic story that develops with great simplicity and conspicuous logic, the photography seems to be "thoughtfully" dramatic. There are no freakish angles, many of the shots are as straight as the players as though the spectator in the theater were allowed to walk in, choose a position exactly in front of what is going on and watch it from that angle. Charles Stramer was George Archainbaud's cinematographer on this. By the simplicity and directness of the shots and the extreme clarity of the focus on the chief dramatic scenes an effect results which corresponds to the logical theme of the story as simply as a-b-c.

Now the question the writer seeks to find an answer to in regard to more ordinary pictures is this: How many times does the cameraman get his script on time and study it thoroughly? In how many instances does the scenario writer feel an active interest in the pictorial value of his scenes and the angles and effects necessary to bring out their best values? In how many cases does the director realize the necessity of taking the cameraman into his confidence at the very start and talk over, not the action but the significance of the action, in every sequence of the story, and how that significance may best be expressed in pictorial effects?

The writer firmly believes that the real high point in the screen art will come when the public exhibitors, critics and all other influences outside the producing industry realize that no beauty or story has charm on the screen unless it is pictorially beautiful as well—and demand that the transcription itself betray perfect understanding between scenario writer and camera artist.

Karl Brown, A. S. C., is completing camera work on "The Covered Wagon" with James Cruze at the Paramount Studios in Hollywood.

* * *

Bert Carr, A. S. C., continues his sojourning in Europe. He is attached to the staff of Eddie Polo.

* * *

Not having heard from Herford T. Cowling, A. S. C., for several weeks, it is presumable that he is penetrating the African jungles on his present expedition to film the country adjacent to the Roosevelt trail.

* * *

Jackson Rose, A. S. C., is enjoying a well-earned vacation before beginning his next cinematographic achievement.

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Central European Cinematography

(Continued from Page 13)

natives wearing wooden shoes—all beautiful atmosphere. We arrived in Berlin the next night. Having lived there for a number of years, I certainly was disappointed. The change was shocking. The city was absolutely dark—no light on the streets. Everything seemed to be dead. We experienced difficulties in getting hotel accommodations. Finally we quartered in the Hotel Central, one of the best hotels in Berlin. The rooms were spacious, well furnished with beautiful oil paintings and draperies. The cost was 400 marks per day, or 75 cents in American money. The rooms were at least three times as big as any good room at the exclusive New York hotels. The darkness, which had impressed me on our arrival, was brought about, I learned the next day, out of respect to Rathenau, the German foreign minister, who had just been assassinated. I could not observe very much of conditions there because we had to leave the next day for Vienna, so I will give an account of my observations of Berlin a little later in this article.

Rich and Poor in Vienna

It had been 14 years since I last saw Vienna. As a city it had scarcely changed a bit physically. It seemed to me. But for the natives, there was a colossal change. There are only two classes—rich and poor. The rich live wonderfully, they can get anything for their money. The poor are suffering immensely. Having the advantage of American money, we might have been regarded as millionaires during our stay there. The rate of exchange then was 32,500 kronen to one dollar. My hotel bill was 20,000 kronen every third day. We partook of the famous food in Vienna, celebrated the world over, in the best restaurants, and seldom did a dinner with wine and beer cost more than 25 cents in American money. I won't bother the reader with such details since they have become generally known, but will discuss the film business in Austria.

Production in Vienna

In Vienna there is only one producing firm which amounts to anything. Organized well enough financially, it is on a sound basis, producing fairly good pictures. This is the Sascha Film Company. Most of their products are costume films. At the time I was there they were shooting the outstanding scenes of "Sodom," which required two years to complete. The exteriors were very well done and the sets very large.

Small Studios

The Viennese have no studios which amount to anything. They are all about the size of the old Edison studio in Fort Lee, N. J. The lighting equipment is very poor, and when ever they have a big set to build, they are obliged to erect them in the open. Everything is as it was in the United States ten years ago. The European producers have progressed very little during these years, due to the war.

Modern Equipment Rare

In Vienna, there are in all about six studios. They are all, as I say, very small. They have ground glass roofs with no diffusing arrangements. The cinematographers are working under very severe conditions, with no modern equipment at their command. Most of the cinematographers are using Pathe, or Krupp-Erismann cameras. The Krupp-Erismann is a reproduction of the Debrie camera. During the war, the Germans could not get any of the French Debries, so the Krupp-Erismann interests started manufacturing cameras, taking the Debrie as the model.

I shot some scenes in Vienna for the Universal production, "Merry Go Round," the locale of which is laid in that city. When I set my camera, the curious people flocked about and it took not a little time to get them from the path of the camera.

Berlin Busy With Production

After several weeks, we returned to Berlin to start our production. I was confident that I would be able to get a

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studio that would meet our requirements. This was not so easy, although I know practically every big studio in Berlin, having worked in most of them. All the big studios at that time were engaged until October, so I had quite a hard time securing space. Thanks to previous acquaintances and having worked with Mr. Joe Mox, director of the May Film Company, I was able to secure his studio and equipment for 16,966 marks a day, or about 15 dollars in American money.

More Costume Photoplays

Everything was very active. There must have been at least 75 companies shooting. Most of them were making German, French and Russian costume pictures. All were employing thousands of extra people. Extra talent is very cheap in Germany. They seldom get more than 250 marks a day.

While in Germany I could find but one German production showing in any of their theaters. It was "Kaiser Friedrich the Great." It was well produced, directed with lots of fine touches, but lacked good photography. There are numerous American productions playing in Germany, the majority are Universals.

Agfa, the German negative film, cost 26 marks per meter. Negative was developed at 175 marks per meter, positive at 1336 per meter and printing cost 230 per meter.

Had it not been for the illness of Director Laemmle, we would have made the intended production and I probably would have still been there, as it was intended to produce at least three or four more productions on the continent. I shall never forget the wonderful farewell party which my friend, Harry Piel, who is well known as a German film director, gave in my honor at the Palace De Dance. Besides our immediate party, the guests included two English producers.

New Sensitometer for Determination in Positive

Printing.

(Continued from page 4.)

General Arrangement

The general arrangement of the top of the sensitometer is shown in Figure 3. The sensitometric tablet occupies the area J across which the dotted lines represent the separations or frame lines between the areas of different density. The guide pins, W, serve to keep both the negative and the positive film properly centered over the tablet. The rollers F and G serve to hold the positive in the proper position while the rollers H and I guide the negative. The circles marked O and P indicate the ruby glass windows crossed by the black lines which make it possible to register the negative with the tablet. A small ruby window at Z permits the operator to see a red flash as the exposure is being made thus preventing the possibility of the lamp burning out without the knowledge of the operator.

The Sensitometric Tablet

As stated previously, the sensitometric tablet is made up of areas (each the size of a single motion picture negative) having transmissibilities proportional to the light intensity values given by the various adjustments or settings on the light change board of the printing machine with which it is proposed to use the sensitometer. In referring to these intensity values, it should be understood that the effective photographic intensity is referred to and not the visual value. The various photographic intensities given by any printing machine must be determined by a photographic method. This can be done as follows: A series of flash prints are made in the printing machine, one strip for each of the intensities obtainable by the various settings on the light change board. By the term "flash strip" is meant simply a print made in the ordinary way but without any negative in the machine. Portions of cine-positive film cut from the same roll as was used in making the flash strip in the printing machine were exposed on the sensitometer



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meter. (4), (1) This is an instrument which gives a series of known exposures to various areas of the sensitive material.

Usual Exposure Scale

The scale of exposure usually employed is one of geometrical progression as for instance, 1, 2, 4, 8, 16, ... etc., exposure units. These strips exposed in the sensitometer are then attached to the flash strip from the printing machine and all developed together in the usual way, great care being taken to obtain uniformity of development. The density values obtained on the sensitometric strip and on the flash strip are then determined in the usual way. From the density values obtained from the sensitometric strips and the known exposures given by the sensitometer, the characteristic curve of the material for that particular development is plotted. Such a curve is shown in Fig. 4, the ordinate values being density and the abscissa the logarithm of the exposures. Now, if the density values obtained from the flash strip be laid off as a succession of points along the density axis, horizontal lines being projected to cut the curve and from these points of cutting perpendiculars be dropped to the log E axis, the exposure values determined at the points where these points cut the log E axis will give the relative values of photographic intensity for the various light change settings of the printing machine.

Illustration

To illustrate this process, let it be assumed that the points A and B represent densities read from two of the flash strips. The horizontal dotted lines indicated cut the characteristic curve at the points C and D. Perpendiculars dropped from these points E and F now give the relative characteristic of the exposure given in printing the flash strips. Since the time is constant for all exposures in the printing machine, these values of E will be directly proportional to the relative photographic intensity of illumination incident upon the film in the printer for the two light changes represented. Proceeding in this manner with one of the printing machines as use in this Laboratory, the values shown in Table 1 were obtained. In column 1 are plotted numbers of the light change settings on the printing machine. In column 2 are the density values read from the flash strips. In column 3 are the log exposure values as determined in the way just described, while in column 4 are the exposure values. These numbers are now directly proportional to the printing intensities for the various steps indicated. The tablet to fit this machine must consist therefore of areas whose transmission values are directly proportional to these exposure values.

TABLE NO. 1

1 Step No.	2 DP	3 Log E	4 E	5 Tr (%)	6 DT
1	.35	.44	2.7		
2	.43	.52	3.3	1.5	1.55
3	.52	.62	4.1		
4	.67	.75	5.6	2.3	1.66
5	.72	.80	6.3		
6	.84	.90	7.9	3.1	1.91
7	1.04	1.07	11.0		
8	1.10	1.12	13.0	5.1	1.29
9	1.17	1.20	16.6		
10	1.37	1.38	22.8	8.6	1.65
11	1.44	1.46	25.0		
12	1.58	1.61	35.0	14.0	.84
13	1.77	1.78	58.0		
14	1.82	1.74	58.0	27.0	.65
15	1.91	1.84	76.0		
16	2.01	2.03	100.0	59.0	.41

(1) Allen C. H. K. and Sheppard R. E. On Instruments for Sensitometric Investigations. With an Historical Review. The Photographic Journal. V. 25, July 1904. p. 599.

(2) Jones, L. A. A New Non-Intermittent Sensitometer. The Journal of the Franklin Institute. V. 155, March 1928. p. 595.

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18	2 18	2 40	251 0	98 0	61

In designing this sensometer it was not deemed necessary or advisable to use a tablet having areas corresponding to each of the light change settings on the printing machine. Such a procedure would require a tablet 18 frames in length and the sampling would consume a considerable amount of film. It was thought sufficient to use a tablet consisting of nine frames, one for each alternate step on the printing machine. In judging quality it is fairly easy to interpolate between two prints, so, if one picture is slightly over-exposed and the next to it is under-exposed, the negative can be printed at the light change setting intermediate between the steps represented by those pictures. It was decided therefore to use for this machine a 9-frame tablet and to adjust these to match the even numbers on the light change board.

Fine-grained Emulsion Chosen

It will be observed that the density values of the flash strips increase with increasing step numbers. In other words, step No. 13 gives the highest density and therefore must be the setting of highest intensity. Step No. 13 on the tablet must therefore give the greatest exposure and hence must have the highest transmission of any of the tablet areas. In making up this sensometer tablet, variable transmission is obtained by the use of pieces of photographic film developed to various densities. In making the densities for use in this work, a fine-grained emulsion was chosen and the development is carried out in a metal developer, deposits sufficiently non-selective can be obtained so that the values of density resulting visually will be taken as equivalent to the effective photographic density. Step No. 13 is made by using a piece of film developed without any exposure. Such a piece was found to have a transmission of 0.56. Reducing the exposure values calculated in the fourth column proportionately to this basis, the values of transmission in column 5 are those desired for the various steps of the tablet. Converting these values to density, the values shown in the fifth column are obtained. A tablet made up of steps having these density values will now reproduce the relative exposures given by this particular printing machine when operated at the light change settings indicated by the numbers in column 1.

Two Ways of Adjustment

The tablet thus made gives correct relative exposures to the various portions of the positive film printed behind it. In order to obtain the same actual exposures it is necessary to adjust the exposure incident upon the tablet. The time is fixed to $3\frac{1}{2}$ seconds and cannot be changed without modification of the mechanical connections. It is necessary, therefore, to adjust the intensity to the proper value. This may be done in either of two ways: by changing the current flowing through the lamp in the sensometer or by changing the position of the diffusing screen located between the lamp and the sensometeric tablet.

In case the adjustment of the sensometer exposure is to be made by variation in the sensometer lamp current, the procedure is as follows: A flash exposure is made on the printing machine at some definite setting on the light change board, as for instance at No. 10. A series of test exposures are then made on the sensometer without a negative in position, at various current values. These test exposures and the flash exposure from the machine are then developed together, care being taken that all are developed to the same extent. That current value which gives a test strip with the density on step No. 10 (or on that step number corresponding to the light change number used in making the flash strip on the printing machine) the same as that obtained on the flash strip from the machine, is the correct value at which to operate the sensometer lamp. In a similar manner, the adjustment may be made by varying the position of the diffusing screen if so desired.

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Operation of the Sensitometer

Negative ready for printing is usually assembled in rolls consisting of from a few to a large number of scenes. Such rolls seldom exceed 400 feet in length and the reel provided for holding the negative to be sampled is sufficiently large to carry a 400 foot roll. This is placed in position and threaded under the rollers and platen, the ends adjusted to the re-wind. A roll of positive material is placed in position and threaded under the rollers and platen and over the sprocket to the take-up. The operator then winds the negative through until the first scene appears. This is registered in position over the tablet by adjusting the frame line coincident to the two positioning lines on the ruby window. The starting lever is then depressed, causing the following series of operations:

- A. Platen descends, pressing the positive material into contact with the negative and the sensitometer tablet.
- B. The shutter opens and after a period of $3\frac{1}{2}$ seconds closes.
- C. The platen rises releasing the films.
- D. The film sprocket is then actuated and advances the film 12 frames.

This completes the cycle of operation which requires a total of 10 seconds. The operator then, by turning the crank on the re-wind mechanism, draws the negative through the machine until he arrives at the next scene. This can be noted by watching the negative as it passes over the red windows or may be detected by feeling the edge of the negative if it has been previously notched for printing. The second scene is placed in register and the process repeated.

After sample prints have been made for all of the scenes the positive is removed and developed, washed and fixed in the usual way. From inspection of these trial prints it is possible then to determine the light change setting which will yield desired quality of positive. Pictures designated by the cross in the lower right hand corner are those which are chosen as having had the proper printing exposure. The inspection of the test prints may be made in the usual way by observing them in the hand without magnification, or they may be placed in an Illuminator provided with an eyepiece giving sufficient magnification to render the judgment somewhat more reliable. Probably the most reliable method of judging quality is to actually project the various pictures under standard conditions. This can be done by means of a suitable projector through which the film can be moved one picture at a time. If this projecting system is adjusted so as to give screen brightness of approximately the same value as commonly used, a most reliable determination of the best possible printing time can be made.

Amplification Possible

If it is considered desirable, the sensitometer can be made more completely automatic in its action, and other attachments added for the convenience of the user. A numbering device which will automatically print an identification number on each test to correspond with the number of the negative being sampled can be built into the mechanism. Furthermore, it is quite possible to drive the negative winding mechanism by motor and to cause the printing machine notches or staples on the negative to start and stop this winding mechanism at the proper time for the testing of each scene. In this way, the attendance of an operator can be eliminated with the exception of placing the roll of negative in position and starting the motor. Further experience with the instrument in practical work will indicate the advisability of adding such features.

Patents covering the sensitometer are being applied for by the Eastman Kodak Company, and the instrument will probably be placed on the market.



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Among the productions he has filmed are "The Easy Road," "The City of Silent Men," "White and Unmarried," "The Conquest of Canaan," "Cappy Ricks," "A Prince There Was," "If You Believe It, It's So," "The Crimson Challenge," "The Ordish," and "Herdland," all of which were Famous Players-Lasky vehicles.

At present he is affiliated with Preferred Pictures, B. P. Schulberg productions. "Shadows," which is being widely discussed at present in the East, is a current example of Perry's ability. His latest production with the same organization is "Are You a Failure?" which, directed by Tom Fernan, includes in its cast Lloyd Hughes, Tom Santschi, Madge Bellamy and Hallam Cooney.

Perry is a brother of Paul Perry, already a member of the American Society of Cinematographers. Ability in cinematography apparently is a family trait.

* * *

Sol Polito, A. S. C., is winding up the camera work on "Mighty Lak a Rose" in New York.

* * *

Charles Stumar, A. S. C., is shooting "Flesh" at Universal City.

* * *

Allan Dorey, A. S. C., is filming Universal's "The Attic of Felix Bava."

* * *

William Fildew, A. S. C., will photograph Universal's "Drifting."

* * *

Frank H. Good, A. S. C., has begun work on "Toby Tyler," starring Jackie Cooper.

* * *

Ross Fisher, A. S. C., is photographing "The Greatest Menace" at the Fine Arts Studios.

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Henry Sharp, A. S. C., is photographing "News" with May MacAvoy.

* * *

Joseph Brotherton, A. S. C., is making preparations for the filming of "Refuge," to star Katherine MacDonald.

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"Thorns and Orange Blossoms"	Karl Struss
"White Shoulders"	Joseph Bretherton, member A. S. C.
"Kith Tide"	Bert Glennon
"Baldie Drummond"	Not credited
"Theima"	Jack MacKenzie, member A. S. C.
"The Jit"	William Marshall, member A. S. C.
"Breaking Home Ties"	Not credited
"While Justice Waits"	Don Short, member A. S. C.
"The Pride of Palomar"	Chester Lyons
"Quincy Adams Sawyer"	Rudolph Berquist, member A. S. C.
"Minnie"	David Kesson and Karl Struss
"Hungry Hearts"	Robert S. Newhard, member A. S. C.
"The Toll of the Sea"	J. A. Ball
"Omar the Tentmaker"	Georges Benoit, member A. S. C.
"The Alka Stars"	Dwight Warren
"What Fools Men Are"	Rudolph Marmar
"The Sager Sea"	John S. Stumar
"The Outcast"	Ernest Haller
"A Shad Bargain"	Norbert Brodin, member A. S. C.
"The Town That Forgot God"	Joseph Rattenberg
"The Streets of New York"	Alfred Orthieb
"Forsaking All Others"	Charles Stumar, member A. S. C.
"A Daughter of Luxury"	Bert Balbridge
"When Love Comes"	Lucien Andriot
"A California Romance"	Joseph August
"Newly Rich"	Robert Doran, member A. S. C.
"The Counter Jumper"	Hans Koenekamp, member A. S. C.
"Pag O' My Heart"	George Barnes, member A. S. C.
"The Beautiful and Damned"	Frank B. Good and E. B. De Por, members A. S. C.
"The Ninety and Nine"	Steve Smith, Jr., member A. S. C.
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